INFORMATION FOR

DRY CREEK WRF

ANNUAL BIOSOLIDS

REPORTS
2014

PERMIT No. WYG - 650002
IDENTIFICATION No. WYSL - 22934

Board of Public Utilities

WATER RECLAMATION DIVISION

P.O. Box 1469, 2416 Snyder Ave, Cheyenne, WY 82003 (307) 637-6460
Dry Creek Water Reclamation Facility, 8911 Campstool Rd. (307)635-3163
Cheyenne, WY 82007 Facsimile (307) 635-6833

January 20, 2015

EPA Region 7
ATTN: Biosolids Center
WWPD/WENF
11201 Renner Boulevard
Lenexa, Kansas 66219

DEQ/Water Quality
122W. 25th Street
Herscehel Building 4th Floor west
Cheyenne, WY 82002

RE: Biosolids 2014 Annual Report for Dry Creek WRF: Permit No. WYG-650002: Identification No. WYSL-22934.

The following 2014 date is for Dry Creek WRF, 8911 Campstool Rd, Cheyenne, WY 82007.

1. Biosolids produced during 2014 was 1863.2 Metric Tons.

2. Biosolids use/disposed of land applied in 2014 were 504.36 Metric Tons.

3. Biosolids on site on January 1, 2014 12,256.23 Metric Tons. On December 31, 2014 on site was 13,615.07 Metric Tons.

4. The type of use/disposed of practice in 2014 was land surface application of Class B Biosolids on the Brant Miller Ranch. All land application was applied at the rate is equal or less to the agronomic rate for site or sites.

5. See Attachment: 1 and Attachment: 13 for 2014 analytical data.

6. A description of how pathogen requirements were met is outlined in Attachment: 4 Pathogen Reduction, including a certification statement.

7. A description of how the vector attraction was met is outlined in Attachment: 5 Vector Attraction Reduction, including certification statement.

8. A description of how management practices were meet is outlined in Attachment: 6 Management Practice, including certification statement.

9. A description of sites were met in Attachment: 3 Land Owner Agreement, and Attachment: 7 Site Restriction, including certification statements. Also inspections on site or sites.

10. Annual whole Biosolids application rate information is contained in Attachment: 2 Bioslids Tracking Program.

11. Monitoring, on the heat exchanger was averaged monthly see, Attachment: 9 Dry Creek WRF Sludge Temperature Heat exchange. Analytical Volatile solids % and total solids %, 12 times a year, see Attachment: 10 Dry Sludge Rows Temperature for Zones A, c, D, and E, see Attachment: 11 Dry Sludge Rows Temperature. Fecal 6 times a year, see Attachment: 13 Dry Creek WRF Total Solids %, Volatile Solids % and Fecal MPN/gm 6 times a year also Geometric Means. Dry Creek WRF has Zone A, B, C, D, E for Class B Biosolids.

12. The location latitude, longitude, township, and range of each site on which Biosolids has been applied, and the number of hectares applied in each site is in Attachment: 2 Dates of Biosolids Tracking Program.

13. See Attachment: 2 A Dates of Biosolids applied in the year 2014.

14. No cumulative amount of Biosolids was applied in the year 2014

15. No changes and updates where added for General information for Dry Creek WRF.

16. No Contract hauler for 2014.

17. No other information required on our Biosoilds NPDES Permit No. WYSL-22934.

ATTACHMENTS FOR 2014

Attachment: 1 Analytical Reports (6 Chemical)

Attachment: 2 Biosolids Tracking Program

Attachment: 2 A Dates of Biosolids Application

Attachment: 3 Landowner Agreement

Attachment: 4 Pathogen Reductions

Attachment: 5 Vector Attraction Reduction

Attachment: 6 Management Practices

Attachment: 7 Site Restrictions

Attachment: 9 Dry Creek WRF Temperature Heat Exchanger

Attachment: 10 Laboratory Analytical Volatile Solids % and Total Solids %

Attachment: 11 Dry Creek WRF Dry Sludge Rows Temperature

Attachment: 13 Dry Creek WRF Total Solids %, Volatile Solids % Fecal MPN/gm and Geometric Means.

Jim Hughes Division Manger Dry Creek WRF

Phil Clark Compliance Supervisor Dry Creek WRF

Prepared By: Chet Barkell Biosolids Program Coordinator; Dry Creek WRF.

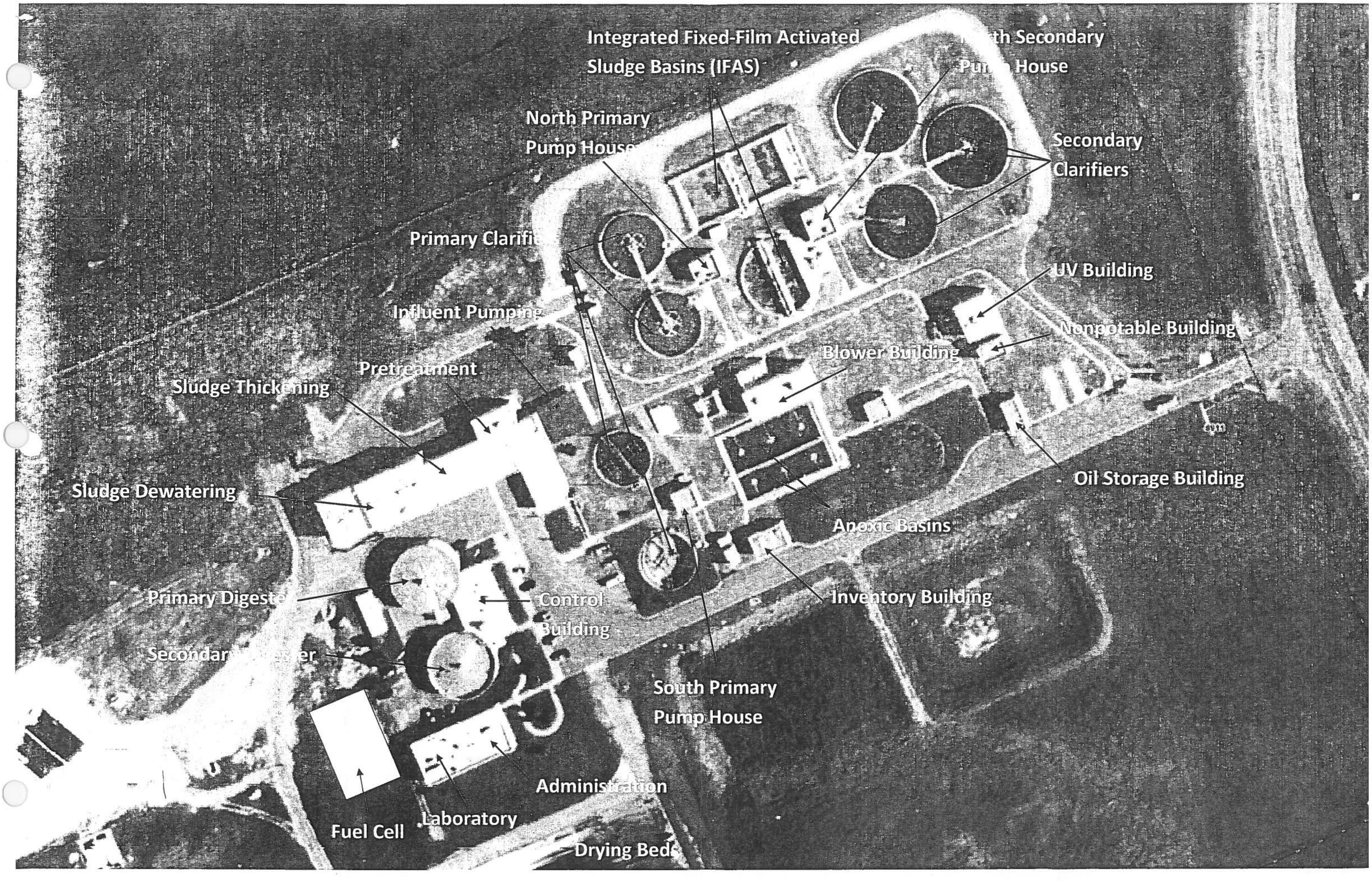
PRIMARY CLARIFIERS AND DRUM THICKENERS' SLUDGE PUMPED TO DIGESTER AT THE DRY CREEK WATER RECLAMATION FACILITY IN 2014

MONTH	GALLONS	DMT	%SOLIDS	LBS	Inf. Flow Monthly Average	Sludge Monthly Aver.Temperature
Jan	1,670,100	269.15	4.26	593,368	4.72	92
Feb	1,515,300	252.80	4.41	557,318	5.09	89
Mar	843,600	108.51	3.4	239,211	5.67	89
Apr	717,900	113.52	4.18	250,269	5.71	91
May	704,400	116.45	4.37	256,724	6.41	97
Jun	645,900	113.62	4.65	250,486	5.68	94
Jul	733,800	122.14	4.4	269,275	5.28	96
Aug	966,000	137.40	3.76	302,922	5.24	96
Sep	725,100	118.77	4.33	261,850	4.33	95
Oct	773,100	121.96	4.17	268,867	5.00	96
Nov	645,900	104.09	4.26	229,478	4.81	96
Dec	649,200	118.38	4.82	260,971	4.73	94
Total	**10,590,300**	**1696.79**		**3,740,739**	**5.22**	**94**

CROW CREEK WATER RECLAMATION FACILITY, PRIMARY AND SECONDARY SLUDGE FROM CLARIFIERS ARE BEING PUMPED TO DRY CREEK WATER RECLAMATION FACILITY TO BE FURTHER PROCESSED. THE SLUDGE IS DISCHARGED IN THE INTERCEPTOR LINE TO DRY CREEK WATER RECLAMATION FACILITY. THE TOTAL SOLIDS FROM CROW CREEK WATER RECLAMATION ARE CALCULATED AS AN ESTIMATE OF A CONSERVATIVE .2 PERCENT OF SOLIDS.

Crow Creek MONTH	**2014** GALLONS	DMT	%SOLIDS	LBS	Inf. Flow Monthly Average	Crow Creek Flow To Dry Creek
Jan	15,209,091	115.07	0.2	253,688	3.32	1.03
Feb	11,365,047	85.99	0.2	189,569	3.34	1.01
Mar	12,907,793	97.66	0.2	215,302	2.72	1.44
Apr	11,916,045	90.16	0.2	198,760	2.58	1.71
May	12,065,055	91.28	0.2	201,245	3.11	1.85
Jun	11,229,288	84.96	0.2	187,305	3.22	1.11
Jul	12,081,597	91.41	0.2	201,521	3.40	1.23
Aug	13,900,865	105.17	0.2	231,866	3.17	1.21
Sep	14,104,993	106.72	0.2	235,271	2.83	1.11
Oct	12,507,812	94.63	0.2	208,630	2.77	1.21
Nov	11,383,200	86.13	0.2	189,872	3.15	0.99
Dec	11,074,823	83.79	0.2	184,728	2.99	0.99
Total	**149,745,609**	**1,132.98**		**2,497,757**	3.05	1.24
Dry Creek	**10,590,300**	**1,696.79**		**3,740,739**	3.30	1.34
Final Total	**160,335,909**	**2,829.77**		**6,238,496**		

Sludge Loads From Beds To Zones							
	Dry Creek WRF	Semi Dry	Semi Dry	Semi Dry	Semi Dry	Drying	
	Load Semi Dry	US Tons	Me Tons	Cu/Yards	LBS	Bed	
2014	Sludge	Sludge	Sludge	Sludge	Sludge	#	
Month							
January	46	345	312.8	690	690,000	1 & 3	
February	43	322.5	292.4	645	645,000	3	
Mach	64	480	435.2	960	960,000	3 & 4	
April	60	450	408	900	900,000	4	
May	60	450	408	900	900,000	2	
June	59	442.5	401.2	885	885,000	2 & 1	
July	79	592.5	537.2	1,185	1,185,000	1	
August	67	502.5	455.6	1,005	1,005,000	3	
September	49	367.5	333.2	735	735,000	3 & 1	
October	55	412.5	374	825	825,000	1 & 4	
November	52	390	353.6	780	780,000	4	
December	41	307.5	278.8	615	615,000	4 & 2	
Total	**675**	**5,063**	**4,590**	**10,125**	**10,125,000**		
Date	Dry Loads	Dry Tons	Dry Me Tons	Dry Cu/Yards	Dry LBS	Drying Bed #	Zone Area
3/10/2014	26	195	176.8	390	390,000	4	E
5/1/2014	36	270	244.8	540	540,000	2	E
6/23/2014	29	217.5	197.2	435	435,000	1	E
6/23/2014	28	210	190.4	420	420,000	3	E
6/24/2014	13	97.5	88.4	195	195,000	3	E
7/9/2014	27	202.5	183.6	405	405,000	4	E
7/22/2014	45	337.5	306	675	675,000	4	E
9/16/2014	20	150	136	300	300,000	1	E
12/9/2014	36	270	244.8	540	540,000	3	F
12/11/2014	14	105	95.2	210	210,000	3	F
Total	**274**	**2055**	**1863.2**	**4110**	**4,110,000**		


Integrated Fixed-Film Activated Sludge Basins (IFAS)
th Secondary
Pu House
North Primary Pump House
Secondary Clarifiers
Primary Clarifi
UV Building
Influent Pumping
Nonpotable Building
Blower Building
Pretreatment
Sludge Thickening
Oil Storage Building
Sludge Dewatering
Anoxic Basins
Primary Digeste
Control Building
Inventory Building
Secondar er
South Primary Pump House
Administration
Laboratory
Fuel Cell
Drying Bed

Attachment: #4.
Dry Creek Water Reclamation Facility

F. Pathogen reduction is accomplished through anaerobic digestion. The primary and secondary digested sludge is treated in the absence of air for mean cell residence time and temperature between 25 and 35 days at 92 to 100 degrees Fahrenheit. Air dried sludge is obtained with a tractor aerator on paved drying beds and on site unpaved storage area in windrows that are turned approximately once a month dependant on the weather conditions.
The Biosolids production (dry weight) at the Dry Creek WRF is over 1500 metric tons a year. Therefore samples are collected six times a year (February, April, May, June, August, October, and December). The laboratories analyze the dry samples for metals, nutrients, organics pathogens, volatile solids and total solids.

CERTIFICATION STATEMENT

I certify under the penalty of law, that the pathogen requirements in Part I.C.3, the management practices in Part I.D (if necessary) (including the practice in part I. D.13 if the table 4 annual pollutant limits are used) and the site restrictions in Part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that pathogen requirements, the vector attraction reduction requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes, Water Reclamation Division Manger

Attachment: #5.
Dry Creek Water Reclamation Facility

G. Vector attraction reduction requirements are met through anaerobic digestion when there is thirty eight percent or more reduction in volatile solids. Volatile solids destruction is measured weight by volume average ((Vol. Solids Reduction = VS in - VS out / (VS in -((VS in * VS out))(Use Average). The sludge is also air dried in windrows for further vector attraction reduction. The dry solids in windrows are between 65% to 80% total volatile solids reduction before land application.
RE: Flows From: Primary North and Primary South Raw sludge Average: Total solids (change % to Mg/l (10000) (NRS & SRS): Total Vol Solids (NRS & SRS): Total C-2 (wasting) cake flow gal: C-1 (digested) Solids (mg/L) cake: C-1 Vol solids cake (mg/L): C-2 solids cake (mg/L): C-2 Vol Solids cake (mg/L) Cake flow from Rotary Drum Thicker to digester.

CERTIFICATION STATEMENT

I certify under the penalty of law, that the pathogen requirements in Part I.C.2, one of the vector attraction reduction alternatives in Part I.C.3, the management practices in part I.D (if necessary) (including the practices in Part I.D.13 if the table 4 annual pollutant limits are used) and the site restrictions in part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the information used to determine that the pathogen requirements, the vector attraction reduction requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes, Water Reclamation Division Manger

Attachment: #6.
Dry Creek Water Reclamation Facility

H. Best management practices are accomplished by applying biosolids at a whole sludge application rate that is less than or equal to the agronomic rate for the specific site and plant species. The Biosolids are applied so that it does not adversely affect a threatened or endangered species.

Biosolids are not dispersed on sites that are flooded or snow covered, frozen ground with a slope of three percent or more to prevent run off into wetland or surface water. A buffer zone of thirty-five feet from waterways, stock wells, and surface water is observed. Biosolids land applications are prohibited to sites where the available phosphorous content of the existing soil exceeds 400 pounds per acre.

Stored Biosolids on the plant facility remain in windrows for two years or less. The Biosolids are land applied in the winter, spring and fall of the year, weather permitting. Biosolids and soil are analytically tested before disposal. Cheyenne's sludge management practice ensures compliance with both Federal and State parameters and provides for long term Biosolids procedures with little or no detriment to the environment, while enhancing the native grass and field crop production of those participating ranchers and farmers who utilize Biosolids as a fertilizer supplement and soil conditioner.

CERTIFICATION STATEMENT

I certify under the penalty of law that the pathogen requirements in Part I.C.2, one of the vector attraction reduction alternatives in Part I.C.3, the management practices in part I.D (if necessary) (including in the practices in Part I.D.13 if the table 4 annual pollutant limits are used) and the site restrictions in Part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personal properly gather and evaluate the information used to determine that the pathogen requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes, Water Reclamation Division Manger

Attachment: #7.
Dry Creek Water Reclamation Facility

I. Site restrictions are first achieved through the quality of sewage sludge product which has been stabilized to reduce pathogenic organisms, which has been dried to a solids concentration of sixty percentile or greater and contains no hazardous or toxic compounds or chemicals in concentrations which exceed those authorized by the USA EPA REGION VIII and WYOMING DEQ for land application in Part C.1, Specific Limitations and Self Monitoring Requirements and Chemical Pollutant Limitations.

The dry sludge that is produced is class A and B which are applied primarily to range land. Before applying sewage sludge on rangeland, pastureland, farm land, or fields, soil samples have been collected and have had the appropriate soil analysis conducted.

The Class B Sludge with respect to pathogens has been in compliance with the entire site restrictions listed in Part I.C.2. No sludge or material derived from sludge exceeds the limits in Table 3 Part I.C.1. The Class A pathogen reduction limits in Part I.C.2 meets the first 4 vector attraction reduction alternatives in Part I.C.3. There are sufficient management practices used to prevent malfunctions and deterioration, operator errors and discharges which may cause or lead to the release of sludge to the environment, a threat to human health or a nuisance.

CERTIFICATION STATEMENT

I certify under the penalty of law, that the pathogen requirements in Part I.C.2, one of the vector attraction reduction alternatives in Part I.C.3, the management practices in Part I.D (if necessary) including the practice in Part I.D.13 if the table 4 annual pollutant limits are used) and the site restrictions in Part I.C.2 (if necessary) have been met. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements, the vector attractions reduction requirements, the management practices and the site restrictions have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment.

Jim Hughes, Water Reclamation Division Manger